

No. 783,531.

PATENTED FEB. 28, 1905.

D. MAXWELL.

PORTABLE PIPE CUTTING, SCREWING, AND BENDING APPLIANCE.

APPLICATION FILED MAY 27, 1904.

2 SHEETS—SHEET 1.

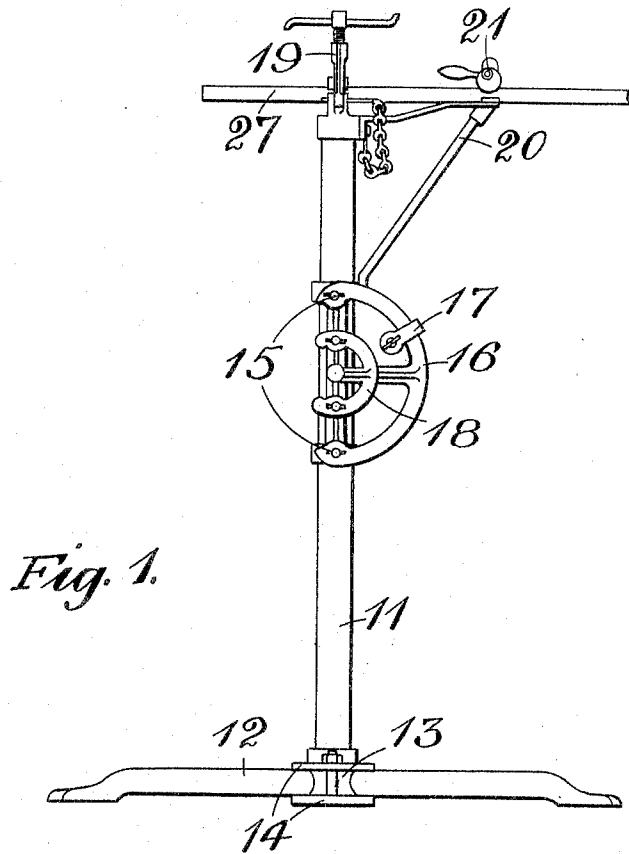


Fig. 1.

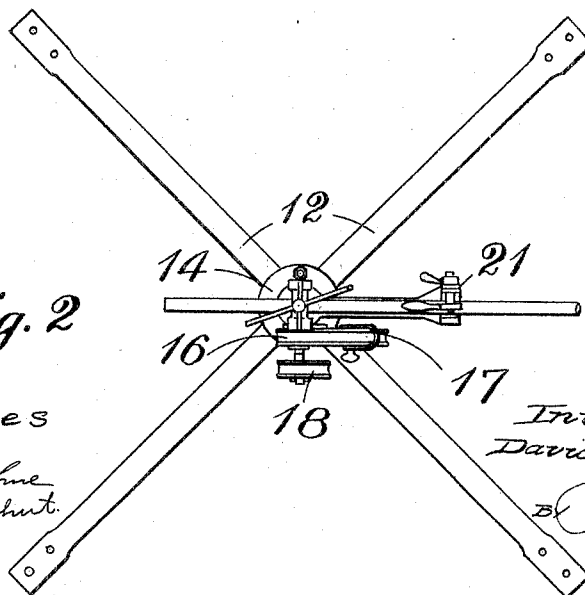


Fig. 2

Witnesses

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Inventor
David Maxwell

By Richard S.

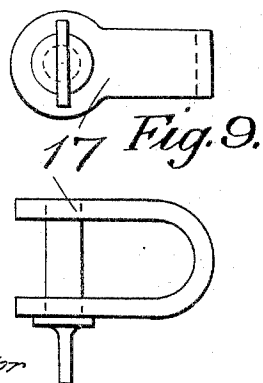
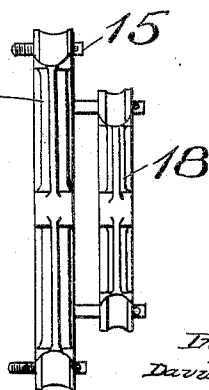
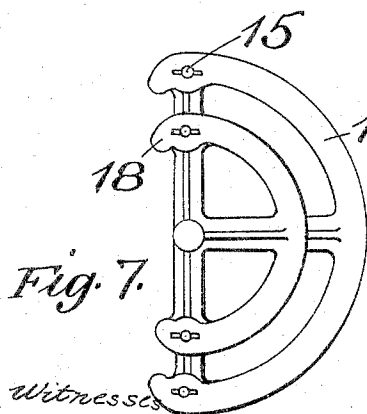
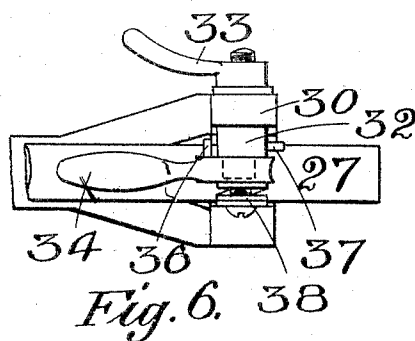
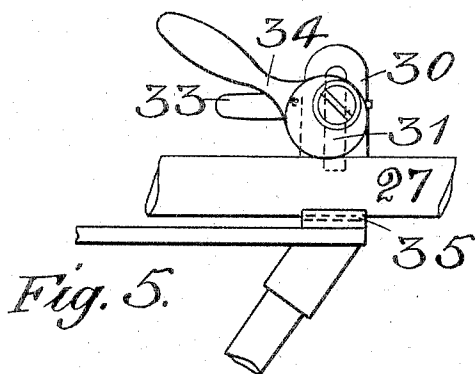
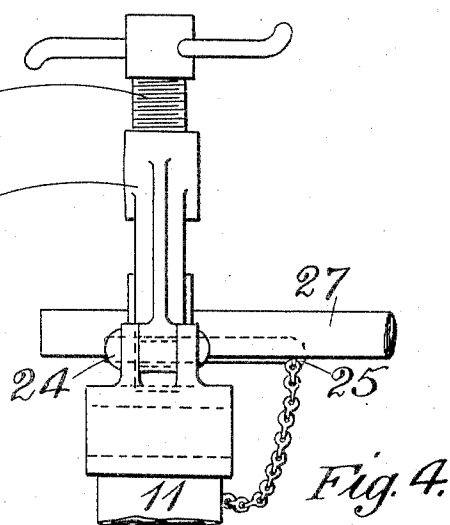
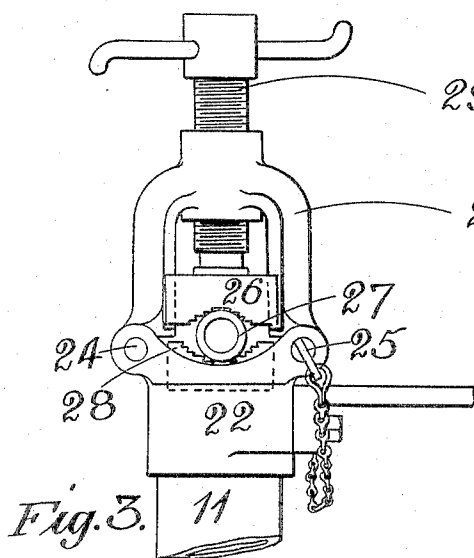
ATTORNEYS

D. MAXWELL.

PORTABLE PIPE CUTTING, SCREWING, AND BENDING APPLIANCE.

APPLICATION FILED MAY 27, 1904.

2 SHEETS—SHEET 2.



Witnesses
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Fig. 10.
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UNITED STATES PATENT OFFICE.

DAVID MAXWELL, OF DUNDEE, SCOTLAND.

PORTABLE PIPE CUTTING, SCREWING, AND BENDING APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 783,531, dated February 28, 1905.

Application filed May 27, 1904. Serial No. 210,099.

To all whom it may concern:

Be it known that I, DAVID MAXWELL, a subject of the King of Great Britain and Ireland, and a resident of Dundee, in the county of Forfar, Scotland, (whose post-office address is 17 King's road, Dundee,) have invented a certain new and useful Improvement in Portable Pipe Cutting, Screwing, and Bending Appliances, (for which I have applied for a patent in Great Britain, No. 14,144, bearing date June 25, 1903,) of which the following is a specification.

This invention relates to an improved portable pipe cutting, screwing, and bending appliance for use in connection with the treatment of gas-pipes, metal conduits for electric-light wires, and the like.

At present when away from the workshop it is difficult to cut, screw, or bend pipes, as there is not in existence any suitable, convenient, and portable appliance, and consequently workmen are often driven to the use of any makeshift tool or tools.

In order that my said invention and the manner of performing or carrying the same into effect or practice may be properly understood, I have hereunto appended two explanatory sheets of drawings, in which the same reference-numerals are used to indicate corresponding parts in all the figures where shown—that is to say:

Figure 1 is an elevation showing the general arrangement of the appliance. Fig. 2 is a plan of the same. Fig. 3 is a face view of a form of pipe-vise. Fig. 4 is a side elevation of same. Fig. 5 is a side elevation of the device for steadying a pipe and is used in conjunction with the pipe-vise. Fig. 6 is a plan of same. Fig. 7 is a side elevation of the pipe-bending appliance. Fig. 8 is an edge elevation of the same. Figs. 9 and 10 are views of the pipe-clamp used in conjunction with the pipe-bending appliance.

In carrying out my invention I use an upright tube or pillar 11 and cause it to be made to stand upright by means of three or more branch tubes 12, radiating at right angles from the center, thus forming a base. The mode

of joining these tubes together consists in screwing them into a malleable iron screwed cross-piece 13 and binding this cross between two malleable-iron flanges 14, bolted together, the upper flange being screwed to receive the upright tube. On the side of the pillar 11 are two projecting studs 15, which engage with a grooved wheel or cam 16 near its rim and at opposite ends of a vertical diameter, such wheel being held with its axis horizontal—that is to say, it is firmly held in a vertical plane. On the rim is a clamp 17, which is of a size to hold the pipe (when it is being bent) in the groove of the wheel. When held, the pipe can be bent about the rim of the wheel to a curvature corresponding to the size of such wheel or even to a greater curvature. A smaller wheel 18 can be similarly applied and used, the clamp 17 being transferred to such wheel in order to hold the pipe when being operated upon. The top of the pillar terminates in a suitable pipe-grip 19 or vise, and projecting from such pillar is a bracket 20, on which is another grip or clamp, 21, the two grips being in line, so that the pipe may be firmly held horizontally while it is being cut or screwed. The pipe-grip 19 in the illustrations consists of a base 22, attached to the upright pipe 11, and a top guide 23, hinged to the base 22 at 24 and capable of being held in the position shown by a pin 25. The top guide carries a sliding piece 26, which can be made to press the pipe 27 against the stationary piece 28 by means of the screw 29, and thus firmly clamp such pipe.

Instead of the particular grip or vise shown I may place on the pillar an ordinary parallel vise—that is to say, different kind of vises may be used to suit different kinds of work.

The grip or clamp 21 consists of a bracket 30, in which is a slot 31, and in the slot is a pin 32, which can be raised or lowered and fixed to the bracket by means of the screwed lever 33. On such pin is an eccentric-lever 34, and in the position shown on the drawings the eccentric is bearing upon the pipe 27 and pressing it against the pad 35, thus firmly holding it. 36 and 37 are stops, respectively,

on the eccentric and the pin, their purpose being when the eccentric is in the loosened position to keep it from going too far back. 38 is a spring-washer, whose purpose is to elastically bear against the side of the eccentric.

The foundation-pipes 12 may be bolted to the floor, although in practice it is found quite convenient for the operator to stand on two of such tubes, and thus steady the appliance.

10 As the bulk of the appliance is composed of tubes detachably screwed together, it can be very easily taken apart and placed in a box or bag, and as it is very light it can be carried from place to place by even a boy.

15 It is operated in the following manner: The pin 25 is withdrawn and the guide 23 opened about the hinge 24, and the grip 21 is set in its loosened position. The pipe 27 is then placed in position and the eccentric-lever 34 set so as to cause such pipe to be gripped. The hinged guide 23 is then thrown over and the pin 25 inserted, and finally the sliding piece 26 is screwed down by means of the screw 29, after which the tube is ready to be operated

25 upon. If a tube requires to be bent, it is held by the clamp 17 against the rim of the wheel 16 and then bent round its circumference.

Having now described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In appliances of the class described, a pipe-clamping device consisting of the combination of a hinged guide 23, a fixed top 22 provided with teeth, to which the guide is attached, a slidable toothed piece 26, a screw 29 and a hand-lever adjustably operating said piece and a pin 25 for holding the jaw; in combination with a back eccentric-grip consisting of an adjustable pin 32 held by a screwed lever 33, an eccentric-lever 34 and a spring-washer 38 as described.

2. In combination in an appliance of the class described, an upright pillar, a flange on the lower end of the same, a second flange bolted to the first, a cross-piece 13 held between the flanges and the branches forming the base and secured to said cross-piece with means at the top of the pillar for clamping the pipe at two places, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

DAVID MAXWELL.

Witnesses:

GEORGE CAMERON DOUGLAS,

AGNES CULLARD STARK DOUGLAS.